

**Remarks/Arguments:**

Claims 1, 2, 7, 8, 10, 11, 15, 16, 28, 31 and 34 are pending. Claims 3, 4-6, 9, 12-14, 17-27, 29, 30, 32 and 33 are canceled.

Claims 1, 3, 6, 7, 9, 10, 12, 14, 15 and 17 were rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description and enablement requirements. This ground for rejection is obviated by the cancellation of claims 3, 6, 9, 12, 14 and 17. The remaining claims, all relate to an embodiment of the invention in which two bit-streams are transmitted simultaneously. Basis for this amendment may be found in the specification in Fig. 3 and at paragraphs [0037], [0039] and [0042].

Claims 1-3, 6-12 and 14-34 were rejected under 35 U.S.C. § 193(a) as being obvious in view of Son (U.S. pub. app. no. 2003/0189892). Applicant respectfully requests reconsideration of this rejection. With regard to canceled claims, 3, 6, 9, 12, 14, 17-27, 28 and 31 this ground for rejection is moot. With regard to claims 1, 2, 7, 8, 10, 11, 15, 16, 28, 31 and 34, Applicant respectfully requests reconsideration. In particular, Son does not disclose or suggest,

transmitting the bit stream mapped to the plurality of bands respectively in the first band order and the bit stream mapped to the plurality of bands respectively in the second band order without changing the plurality of bands used to transmit the bit stream,

wherein the transmitting step includes simultaneously transmitting the bit stream in the first band order and the bit stream in the second band order for receipt by a receiver,

as required by claim 1, claims 7, 10 and 15 include similar recitations.

In the Office Action, it is admitted that Son does not disclose simultaneously transmitting the signal in the first band order and the second band order for receipt by the receiver. In addition, it is asserted in the Office Action that,

One of ordinary skill in the art would recognize that it is well known ... to utilize a type of diversity scheme ... wherein multiple versions of the same signal may be simultaneously transmitted and/or received over different channels/frequencies and combined in the receiver.

Therefore, it would have been obvious to one of ordinary skill in the art to simultaneously transmit the bit stream in the first band order and the second band order instead of non-simultaneously transmitting the bit stream in the first band order and the second band order in order to improve the reliability of the bit stream.

Applicant respectfully disagrees with this assertion.

First, Applicant notes that Son can not be modified as suggested without changing its principle of operation. As set forth in paragraphs [0009], [0010] and [0030], the apparatus and method disclosed by Son concern a system using ARQ (Automatic Repeat Request) protocol. As explained in paragraphs [0006] and [0007] of Son, according to the ARQ protocol, when data having a defect is received, the same data is resent in response to a resend request. Therefore, it is a fundamental condition (principle of operation) of Son that the same data is resent after a predetermined time has elapsed since the data was first sent.

If Son were modified as suggested in the Office Action, the principle of operation would change. Instead of resending the data at a different time, the data would be sent simultaneously in different band order. This, however, would be incompatible with ARC.

It is well settled that a reference can not be modified to render a claim obvious if the modification would change the principle of operation of the reference. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious."<sup>1</sup> Because the modification proposed in the Office Action is incompatible with ARQ, Applicant asserts that the modification proposed in the Office Action is improper.

In addition, Applicants assert that the modification of Son proposed in the Office Action is effectively a taking of official notice. "Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known."<sup>2</sup> Applicants assert that it is not well known to simultaneously transmit data "without changing the plurality of bands used to transmit the bit-stream." As described in the responses to previous Office Actions, Son sends a time-domain signal in a single band. Thus, if Son were to use the same band to transmit the first and second bit-streams simultaneously, the data would be hopelessly corrupted.

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<sup>1</sup> MPEP §2143.02 quoting *In re Ratti*, 123 USPQ 349 270 F.2d 810 (CCPA 1959)

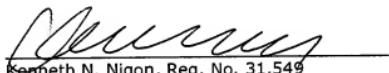
<sup>2</sup> MPEP §2144.03.

Because the modification of Son is improper and because the Official Notice taken in the Office Action is improper, Applicants assert that claims 1, 7, 10 and 15 are not subject to rejection under 35 U.S.C. § 103(a) in view of Son. Claims 2, 28, 31 and 34 depend from claim 1; claim 8 depends from claim 7; claim 11 depends from claim 10; and claim 16 depends from claim 15. Accordingly, these claims are not subject to rejection under 35 U.S.C. § 103(a) for at least the same reasons as their base claims.

**Conclusion**

In view of the claim amendments and remarks set forth above, Applicants respectfully submit that the application is in condition for allowance. Notification to that effect is respectfully requested.

Respectfully submitted,



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